

Australian Standard[®]

**Bonded abrasive products—Permissible
unbalances of grinding wheels as
delivered—Static testing**



This Australian Standard® was prepared by Committee ME-033, Abrasives. It was approved on behalf of the Council of Standards Australia on 5 September 2006.
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The following are represented on Committee ME-033:

- Abrasives Institute of Australia
 - Australian Chamber of Commerce and Industry
 - Industrial Diamond Association of Australia
 - The University of Melbourne
 - Victorian Employers' Chamber of Commerce
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PREFACE

This Standard was prepared by the Standards Australia Committee ME-033, Abrasives, to supersede AS/NZS 4820:2001, *Bonded abrasive products—Permissible unbalances of grinding wheels as delivered—Testing*.

This Standard is identical with, and has been reproduced from ISO 6103:2005, *Bonded abrasive products—Permissible unbalances of grinding wheels as delivered—Static testing*.

The objective of this Standard is to adopt the latest edition of ISO 6103, and so align the testing and limits for unbalance of grinding wheels with international convention.

The term ‘normative’ has been used in this Standard to define the application of the annex to which it applies. A ‘normative’ annex is an integral part of a Standard.

As this Standard is reproduced from an international standard, the following applies:

- (a) Its number appears on the cover and title page while the international standard number appears only on the cover.
- (b) In the source text ‘this International Standard’ should read ‘this Australian Standard’.
- (c) A full point substitutes for a comma when referring to a decimal marker.

References to International Standards should be replaced by references to Australian or Australian/New Zealand Standards, as follows:

<i>Reference to International Standard</i>		<i>Australian Standard</i>	
ISO		AS	
603	Bonded abrasive products— Dimensions	4524	Bonded abrasive products— Dimensions
603-1	Part 1: Grinding wheels for external cylindrical grinding between centres	4524.1	Part 1: Grinding wheels for external cylindrical grinding between centres
603-2	Part 2: Grinding wheels for centreless external cylindrical grinding	4524.2	Part 2: Grinding wheels for centreless external cylindrical grinding
603-3	Part 3: Grinding wheels for internal cylindrical grinding	4524.3	Part 3: Grinding wheels for internal cylindrical grinding
603-4	Part 4: Grinding wheels for surface grinding/peripheral grinding	4524.4	Part 4: Grinding wheels for surface grinding/peripheral grinding
603-5	Part 5: Grinding wheels for surface grinding/face grinding	4524.5	Part 5: Grinding wheels for surface grinding/face grinding
603-6	Part 6: Grinding wheels for tool and tool room grinding	4524.6	Part 6: Grinding wheels for tool and tool room grinding
603-7	Part 7: Grinding wheels for manually guided grinding	4524.7	Part 7: Grinding wheels for manually guided grinding
603-8	Part 8: Grinding wheels for deburring and fettling/snagging	4524.8	Part 8: Grinding wheels for deburring and fettling/snagging
603-9	Part 9: Grinding wheels for high- pressure grinding	4524.9	Part 9: Grinding wheels for high- pressure grinding
603-12	Part 12: Grinding wheels for deburring and fettling on a straight grinder	4524.12	Part 12: Grinding wheels for deburring and fettling on a straight grinder
603-13	Part 13: Grinding wheels for deburring and fettling on a vertical grinder	4524.13	Part 13: Grinding wheels for deburring and fettling on a vertical grinder

ISO		AS	
603-14	Part 14: Grinding wheels for deburring and fettling/snagging on an angle grinder	4524.14	Part 14: Grinding wheels for deburring and fettling/snagging on an angle grinder
603-15	Part 15: Grinding wheels for cutting-off on stationary or mobile cutting-off machines	4524.15	Part 15: Grinding wheels for cutting-off on stationary or mobile cutting-off machines
603-16	Part 16: Grinding wheels for cutting-off on hand held power tools	4524.16	Part 16: Grinding wheels for cutting-off on hand held power tools

AUSTRALIAN STANDARD

Bonded abrasive products — Permissible unbalances of grinding wheels as delivered — Static testing**1 Scope**

This International Standard specifies the maximum permissible values of unbalances for various grinding wheels of ISO 603-1 to ISO 603-9 and ISO 603-12 to ISO 603-16 in the as-delivered condition, with an outside diameter $D > 115$ mm and maximum operating speed $v_s \geq 16$ m/s.

It also specifies the method for measuring the unbalance and the practical method for testing whether a grinding wheel is acceptable or not.

This International Standard is applicable to bonded abrasive grinding wheels in the as-delivered condition.

This International Standard is not applicable to

- diamond, cubic boron nitride or natural stone grinding wheels, or to
- centreless control wheels, lapping and disc wheels, ball wheels or glass grinding wheels.

NOTE 1 The values given refer to the grinding wheel itself, independent of any unbalance which may exist in the balancing arbor or in the means of fastening it to this arbor. These various elements, together with the flanges or hub-flanges, are assumed to be balanced, homogeneous and free from geometrical defects.

NOTE 2 The effects of unbalance are basically

- additional stresses on the arbor, the machine and its mounting,
- excessive wear of the bearings,
- vibration prejudicial to the quality of machining and increased internal stresses in the grinding wheel, and
- increased operator fatigue.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 603-1, *Bonded abrasive products — Dimensions — Part 1: Grinding wheels for external cylindrical grinding between centres*

ISO 603-2, *Bonded abrasive products — Dimensions — Part 2: Grinding wheels for centreless external cylindrical grinding*

ISO 603-3, *Bonded abrasive products — Dimensions — Part 3: Grinding wheels for internal cylindrical grinding*